

Amendments to the Claims

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

- 5 1. (currently amended) An electronic device circuit comprising:
a bus interface for communications with a host;
an interface unit electrically coupled to the bus interface for, in a startup procedure,
receiving operational firmware from the host and receiving initialization data
required for initializing the electronic device circuit from the host;
10 a control circuit electrically coupled to the interface unit for transferring the
received operational firmware to a volatile memory; and
a microprocessor electrically coupled to the control circuit for executing the
received operational firmware while stored in the volatile memory;
~~wherein the microprocessor controls the electronic device circuit according to the~~
15 ~~received operational firmware, and the electronic device circuit is initialized by the~~
~~initialization data which is received in the startup procedure.~~
wherein the electronic device circuit is initialized by the initialization data, and the
microprocessor is inactive while the electronic device circuit is being initialized.
- 20 2. (previously presented) The electronic device circuit of claim 1 wherein the bus
interface conforms to USB, IDE, SATA, SAS, or SCSI interface standards.
3. (previously presented) The electronic device circuit of claim 1 wherein the
interface unit is a macro.
- 25 4. (previously presented) The electronic device circuit of claim 3 wherein the macro
comprises handshaking, data reception, and writing received data into the memory
functions.
- 30 5-6. (cancelled)

7. (previously presented) The electronic device circuit of claim 1 wherein the host is a computer system.
- 5 8. (previously presented) The electronic device circuit of claim 1 wherein the microprocessor executes the received operational firmware without accessing a non-volatile memory.
9. (cancelled)
- 10 10. (previously presented) The electronic device circuit of claim 1 wherein the volatile memory comprises the received operational firmware being executed by the microprocessor to control the electronic device circuit.
- 15 11. (currently amended) An electronic device comprising a download mode wherein, in a startup procedure, operational firmware is received from an external host and stored into a volatile memory of the electronic device and initialization data required for initializing the electronic device is received from the external host, the electronic device is initialized by the initialization data received in the startup
- 20 procedure, followed by a normal mode wherein a microprocessor of the electronic device is inactive while the electronic device is being initialized and executes the operational firmware received in the startup procedure to control the electronic device.
- 25 12. (previously presented) The electronic device of claim 11 wherein the electronic device at least reads data from a storage medium, processing the data, and transferring the processed data to the host.
13. (cancelled)
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14. (previously presented) The electronic device of claim 11 wherein the operational firmware is received over a bus interface conforming to USB, IDE, SATA, SAS, or SCSI interface standards.
- 5 15. (previously presented) The electronic device of claim 11 wherein the host is a computer system.
- 10 16. (currently amended) A method of operating an electronic device, the electronic device comprising a control circuit connected to a microprocessor, a volatile memory, and a bus interface connected to a host, the method comprising:
receiving operational firmware from the host in a startup procedure;
receiving initialization data from the host when the electronic device in the startup procedure, wherein the initialization data contains instructions required to initialize the electronic device;
15 initializing the electronic device by the initialization data which is received in the startup procedure;
writing the operational firmware into the volatile memory; [[and]]
activating the microprocessor after the electronic device is initialized; and
executing the operational firmware in the volatile memory by the microprocessor
20 to control the electronic device.
17. (cancelled)
- 25 18. (previously presented) The method of claim 16 wherein the operational firmware is received over a bus interface conforming to USB, IDE, SATA, SAS, or SCSI interface standards.
- 30 19. (previously presented) The method of claim 16 further comprising the electronic device transmitting an electrical signal to an application program in the host to begin receiving the operational firmware.

20. (original) The method of claim 16 wherein the host is a computer system.

21. (currently amended) A computer system comprising:

5 a host computer comprising operational firmware for controlling operations of an electronic device and initialization data for initializing the electronic device; and

the electronic device comprising:

10 a volatile memory for storing the operational firmware transferred from the host computer through a connecting bus interface; and

a microprocessor executing the operational firmware stored in the volatile memory for controlling the electronic device;

15 wherein the electronic device further receives the initialization data from the host computer when the electronic device is in a startup procedure, [[and]] the electronic device is initialized by the initialization data received in the startup procedure, and the microprocessor is inactive while the electronic device is being initialized.

20 22. (previously presented) The computer system of claim 21 wherein the microprocessor executes the operational firmware to control to read data from a storage medium.

23. (original) The computer system of claim 21 wherein the bus interface conforms to USB, IDE, SATA, SAS, or SCSI interface standards.

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24. (cancelled)

25. (currently amended) An electronic device controller comprising:

a bus interface for communications with a host;

30 a volatile memory for storing operational firmware received from the host in a

- startup procedure;
a microprocessor for controlling the electronic device controller by executing the
operational firmware stored in the volatile memory;
an RF circuit; and
5 a control circuit connected to the bus interface, the volatile memory, the
microprocessor, and the RF circuit;
wherein the electronic device controller is initialized by initialization data received
from the host in the startup procedure, and the microprocessor is inactive while the
electronic device controller is being initialized.
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26. (currently amended) The electronic device controller of claim 25 wherein the
volatile memory comprises the received operational firmware being executed by
the microprocessor to control the electronic device controller.
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27. (currently amended) An electronic device circuit used in a host system, wherein
the electronic device circuit has operational firmware transferred from the host
system to a volatile memory through a bus interface after the host being powered
on, the electronic device circuit comprising:
a microprocessor for executing the received operational firmware while stored in
20 the volatile memory;
wherein the electronic device circuit is initialized by initialization data which is
transferred from the host system after the host being powered on, and the
microprocessor is inactive while the electronic device circuit is being initialized.
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28. (previously presented) The electronic device circuit of claim 27 wherein the bus
interface conforms to USB, IDE, SATA, SAS, or SCSI interface standards.
29. (cancelled)
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30. (previously presented) The electronic device circuit of claim 27 wherein the host

system is a computer system.

- 5 31. (previously presented) The electronic device circuit of claim 27 wherein the microprocessor executes the received operational firmware without accessing a non-volatile memory.
32. (previously presented) The electronic device circuit of claim 27 wherein the host system comprises the volatile memory.
- 10 33. (previously presented) The electronic device circuit of claim 27 wherein the host system comprises a host controller accessing the volatile memory that is shared by the host system and the microprocessor.
- 15 34. (previously presented) The electronic device circuit of claim 27 wherein the volatile memory is accessed only by the electronic device circuit.
35. (previously presented) The electronic device circuit of claim 27 wherein the electronic device circuit comprises the volatile memory.
- 20 36-37. (cancelled)
38. (new) An electronic device comprising:
a bus interface for communications with a host;
an interface unit electrically coupled to the bus interface for, in a startup procedure,
25 receiving initialization data from the host to initiate the electronic device; and
a microprocessor coupled to the interface unit for controlling the electronic device,
wherein the microprocessor is inactive while the electronic device is being initialized.
- 30 39. (new) The electronic device of claim 38 wherein the interface unit is a macro.

40. (new) The electronic device of claim 39 wherein the macro comprises
handshaking, data reception, and writing the received data into the memory
functions.
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41. (new) The electronic device of claim 38 wherein the interface unit further receives
an operational firmware from the host and stores the received operational
firmware to a volatile memory.
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42. (new) The electronic device of claim 41 wherein the microprocessor executes the
operational firmware to control the electronic device.
43. (new) The electronic device of claim 41 wherein the microprocessor is activated
by the operational firmware.
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44. (new) A method of operating an electronic device, wherein the electronic device is
connected with a host and comprises a microprocessor, the method comprising:
receiving an initialization data from the host when the electronic device in a
startup procedure, wherein the initialization data contains instructions to
initiate the electronic device;
initiating the electronic device by the initialization data; and
activating the microprocessor after the electronic device is initialized.
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45. (new) The method of claim 44, wherein the method further comprises:
receiving an operational firmware from the host; and
writing the received operational firmware to a volatile memory.
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46. (new) The method of claim 45 wherein the microprocessor is activated by the
operational firmware.
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47. (new) The method of claim 45 wherein the microprocessor executes the operational firmware to control the electronic device.